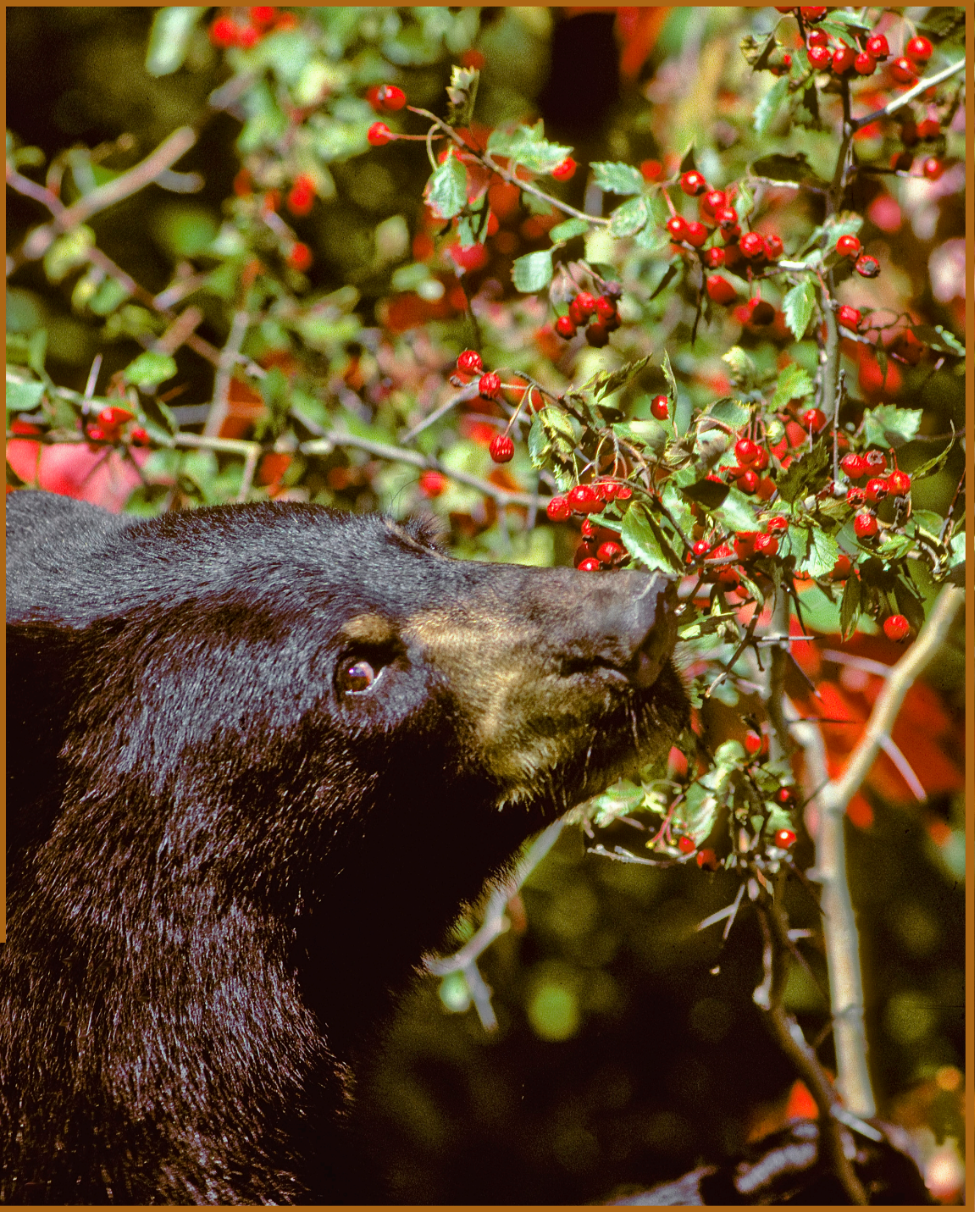


4

Science Standard  
4.2.a.



# Plants: The Ultimate Energy Resource

## **California Education and the Environment Initiative**

Approved by the California State Board of Education, 2010

### **The Education and the Environment Curriculum is a cooperative endeavor of the following entities:**

California Environmental Protection Agency  
California Natural Resources Agency  
Office of the Secretary of Education  
California State Board of Education  
California Department of Education  
California Integrated Waste Management Board

### **Key Leadership for the Education and Environment Initiative:**

**Linda Adams**, Secretary, California Environmental Protection Agency  
**Patty Zwarts**, Deputy Secretary for Policy and Legislation, California Environmental Protection Agency  
**Andrea Lewis**, Assistant Secretary for Education and Quality Programs, California Environmental Protection Agency  
**Mark Leary**, Executive Director, California Integrated Waste Management Board  
**Mindy Fox**, Director, Office of Education and the Environment, California Integrated Waste Management Board

### **Key Partners:**

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### **Office of Education and the Environment**

1001 I Street • Sacramento, California 95812 • (916) 341-6769  
<http://www.calepa.ca.gov/Education/EEI/>

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## **Lesson 2 Energy for Survival**

### **Visual Aids**

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## **Lesson 3 The Chain Game**

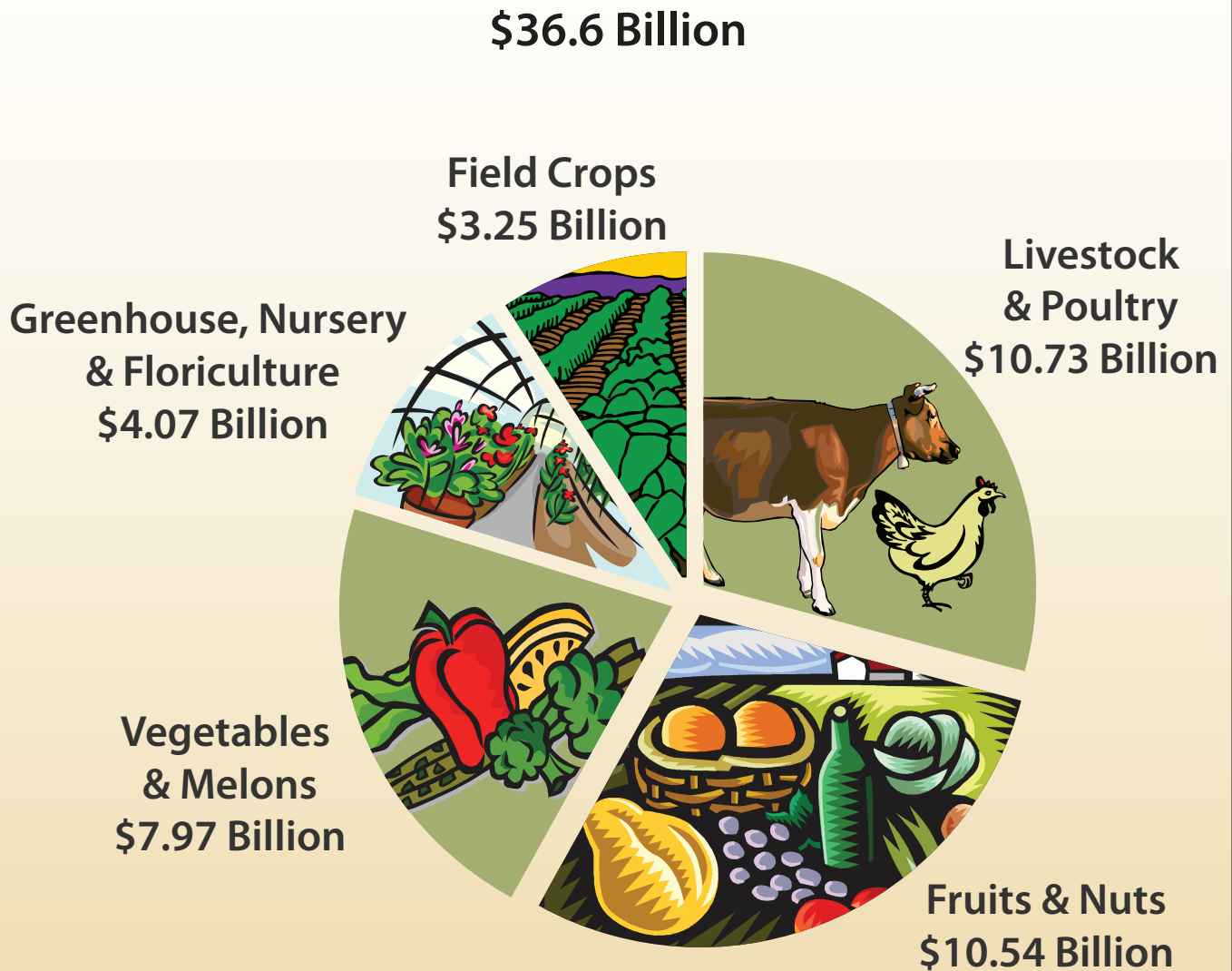
None required for this lesson.

## **Lesson 4 Energy: The Source**

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**VA #1 California's Agricultural Income, 2007**

Source: California's Gross Cash Receipts, 2007, California Department of Food and Agriculture, California Agriculture Resource Directory 2008–2009



## VA #2 Ecosystem Services: Pollinating Plants



## VA #3 Ecosystem Services: Decomposition





## VA #4 Ecosystem Services: Spreading Seeds



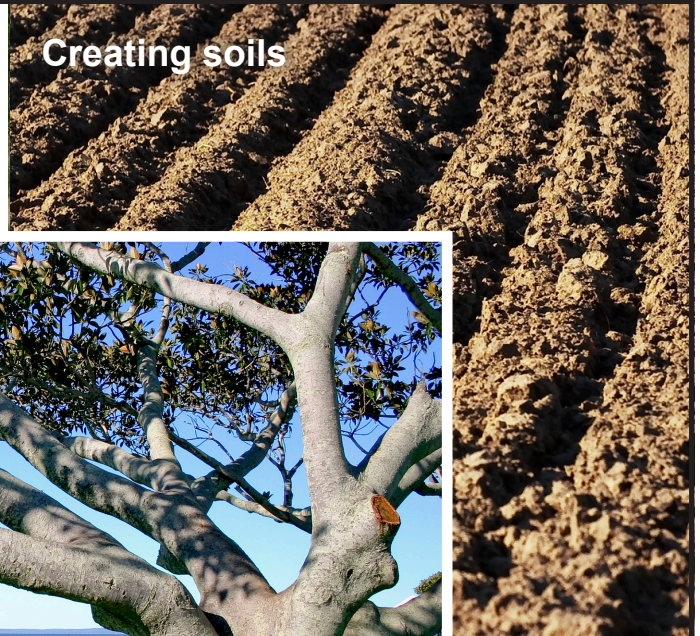


## VA #5 Other Ecosystem Services

Controlling erosion



Creating soils



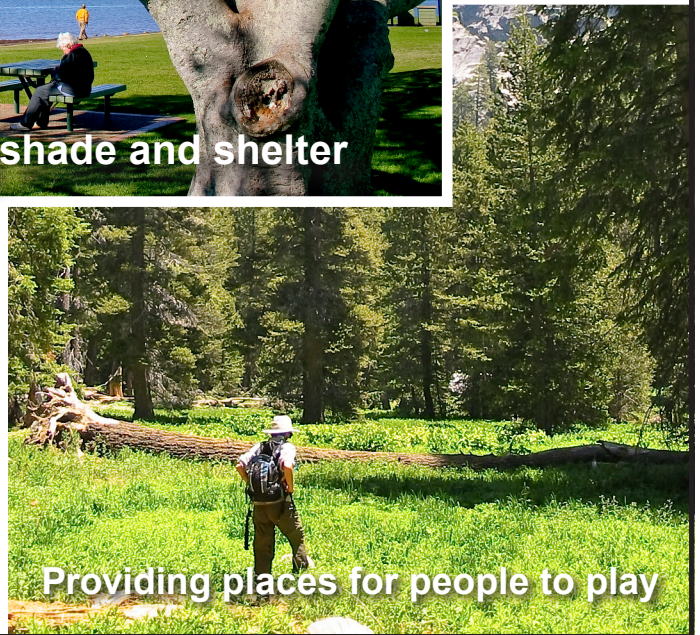
Providing shade and shelter



Producing food and oxygen



Providing places for people to play





**VA #6 Classroom Inventory**

Things in the Classroom	Living?	What it Does	Survival Needs

## VA #7 Wheat to Bread: Grass Seeds

**1. Wheat grass grows in a field (on a farm or in natural systems). The grasses produce seeds called “wheat.”**



**2. Wheat kernels (seeds) are harvested by people.**





## VA #8 Wheat to Bread: At the Factory

**3. The wheat kernels are washed and sorted in a factory.**



**4. Wheat kernels are ground up into the powder we call “flour.”**

## VA #9 Bread: Ready to Eat

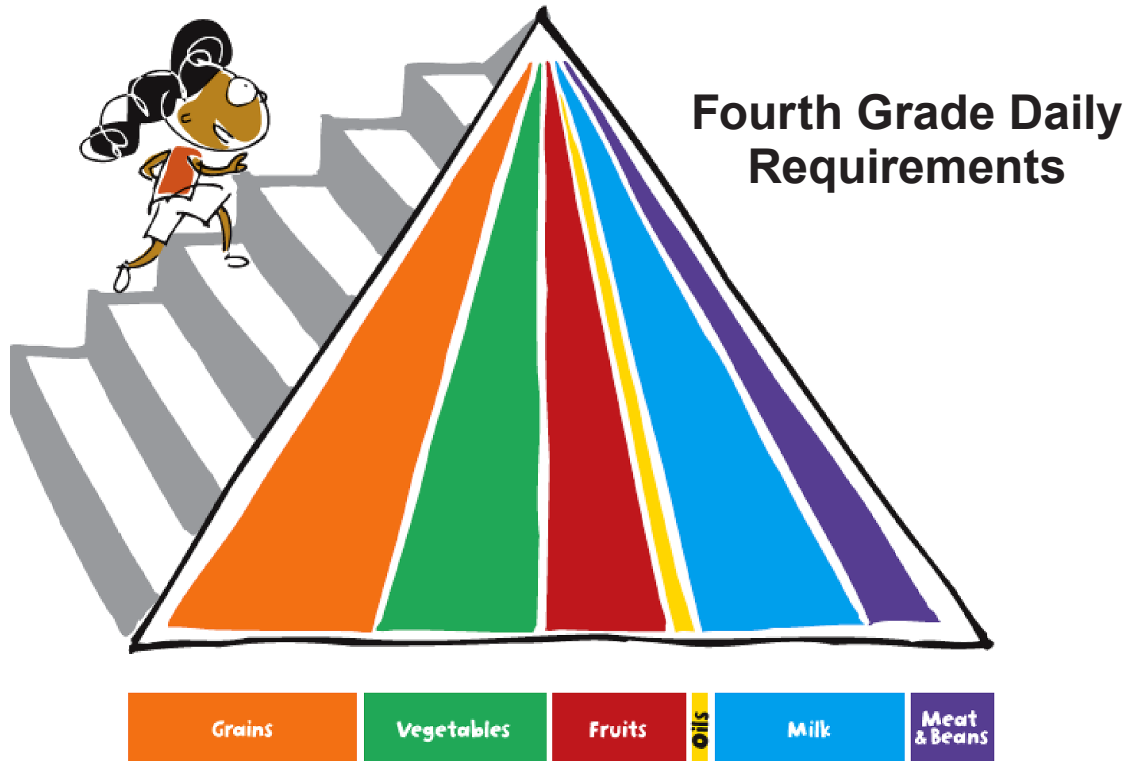
**5. Wheat flour is mixed with other ingredients to form dough and the dough is baked in an oven. The baking turns the dough into bread.**



**6. You buy the packaged bread at the store and eat it with a meal.**



## VA #10 USDA Food Pyramid: 2007



Food Groups	Girls	Boys
grains	5 ounces	6 ounces
vegetables	2 cups	2½ cups
fruit	1½ cups	1½ cups
milk or dairy	3 cups	3 cups
meat	5 ounces	5 ounces

## VA #11 Oaks of California: Coast Live Oak





## VA #12 Oaks of California: Scrub Oak





## VA #13 Oaks of California: Valley Oak





## VA #14 Oaks of California: Blue Oak













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